



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,758	12/04/2001	Donald J. Monroe	10541-636	8286
28866	7590	06/20/2006	EXAMINER	
MACMILLAN, SOBANSKI & TODD, LLC ONE MARITIME PLAZA - FIFTH FLOOR 720 WATER STREET TOLEDO, OH 43604			SY, MARIANO ONG	
			ART UNIT	PAPER NUMBER
			3683	

DATE MAILED: 06/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/004,758	MONROE ET AL.	
	Examiner	Art Unit	
	Mariano Sy	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-17,19-21 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-17,19-21 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed on March 29, 2006 has been received.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-7, 9-17, 19-21, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston (US 4,748,862) in view of Jacoby (US 2,831,737).

Re-claims 1, 5, 7, and 15 Johnston disclosed, as shown in fig. 1-2, a starter pinion 14,18 moveable along an output shaft 10 of a starter assembly, the pinion comprising: an inner surface 24 having a bore formed therethrough, the inner surface

Art Unit: 3683

(since bushing 18 is integral with pinion 14, the inner surface is readable as the inner surface 24 of pinion bushing 18) being disposed about and configured to contact the output shaft and terminating at an end face of the pinion, wherein the inner surface and a plane defined by the end face are generally perpendicular with each other; and a groove 20 for receiving and moving particles along the output shaft as the pinion moves along the output shaft, the groove being formed along a length of the inner surface and extending to the end face, the groove defining a primary cleaning edge formed adjacent the groove along the length of the inner surface; wherein a longitudinal end of the groove 20 slopes outwardly along the end face to intersect the inner surface.

However Johnston failed to disclose wherein the inner surface and the end face intersect to define a secondary edge and the primary edge of the groove is arcuately formed along the inner surface of the pinion.

Jacoby '737 teaches, as shown in fig. 5, a housing A' having a plurality of debris channels 25' and an inner surface and end face intersect to define a secondary edge and the primary edge of the channel is arcuately formed along the inner surface of the housing.

It would have been obvious to one of ordinary skill in the art to modify the pinion of Johnston with the inner surface and end face intersect to define a secondary edge and the primary edge of the groove is arcuately formed along the inner surface of the pinion which is well known, in view of the teaching of Jacoby, in order to maximize the cleaning of debris or foreign particles.

Art Unit: 3683

Re-claim 2 Johnston further disclosed that the pinion 14, 18 is a one-piece pinion (since in col .1, lines 67-68, pinion 14 and bushing 18 are press-fit together and move together, thus the two parts are integrally formed a one-piece structure).

Re-claim 3, see col. 1, line 58 – col. 2, line 1.

Re-claim 4, see column 1, lines 58 et al.

Re-claim 6, see col. 3, lines 6-13.

Re-claim 9, see the plurality of grooves 20 on the inner surface 24 shown in fig. 2 and note how each groove has its own separate primary edge as described in Claim 1 above.

Re-claim 10, see grooves in fig. 2, each formed along the length of the inner surface 24 and adjacent each respective primary edge.

Re-claim 11, see fig. 2.

Re-claim 12, see fig. 2.

Re-claim 13, note how at least bushing 18, which is integral with pinion 14, is made of metal as disclosed in col. 2, lines 6-7.

Re-claim 14, see the barrel portion shown in fig. 1 and a gear portion (see fig. 1 and the portion of pinion 14, 18 labeled element numeral 14, wherein the end face and the inner surface 24 are adjacent the gear portion (see fig. 1-2).

Re-claim 16, see claim 5 above.

Re-claim 17, see groove 20 of fig. 2 and col. 3, lines 6-13.

Re-claim 19, see fig. 2 and grooves 20.

Re-claim 20, see claim 10 above.

Re-claim 21, see fig. 2.

Re-claim 34, see claim 2 above.

5. Applicant's arguments filed on March 29, 2006 have been fully considered but they are not persuasive.

In the Remarks (page 6), Applicants asserted that Jacoby (US 2,831,737) is cited to describe a plurality of debris channels having an inner surface and end surface intersect a secondary edge and a primary edge of the channel formed along the inner surface of the housing. However, Jacoby describes channels (e.g. grooves) having cylindrical bottom walls (25) and radially inwardly convergent side walls (27) which converge with the inner bearing surface. The side walls of Jacoby converge when intersecting with the inner bearing surface., whereas claim 1 includes a groove having outwardly sloping walls along the end face that intersect with the inner surface. Examiner disagreed with Applicants that Jacoby and Johnson fails to describe or suggest, either individually or in combination, the end of the groove sloping outwardly along the end face to intersect the primary edge of the inner surface.

Johnston (US 4,748,862) disclosed, as shown in Fig. 2, the longitudinal end of the groove 20 slopes outwardly along the end face to intersect the inner surface would satisfy the added new limitations of the amended claims 1 and 15.

Jacoby '737 is mainly used, as shown in fig. 5-6, for the teaching of a housing A' having a plurality of debris channels 25' and an inner surface and end face intersect to

Art Unit: 3683

define a secondary edge and the primary edge of the channel is arcuately formed along the inner surface of the housing.

It would have been obvious to one of ordinary skill in the art to modify the pinion of Johnston with the inner surface and end face intersect to define a secondary edge and the primary edge of the groove is arcuately formed along the inner surface of the pinion which is well known, in view of the teaching of Jacoby, in order to maximize the cleaning of debris or foreign particles.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariano Sy whose telephone number is 571-272-7126. The examiner can normally be reached on Mon.-Fri. from 8:30 A.M. to 2:30 P.M.

Art Unit: 3683

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan, can be reached on 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

msy M. Sy

June 12, 2006

DEVON C. KRAMER
PATENT EXAMINER
Dev *6/17/06*